

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte AKIHISA INOUE, TAO ZHANG,
MASAHIDE ONUKI and TETSUO YAMAGUCHI

Appeal No. 2002-1274
Application No. 09/153,309

ON BRIEF

Before KIMLIN, WALTZ and DELMENDO, Administrative Patent Judges.
KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 6 and 9, all the claims remaining in the present application. Claim 6 is illustrative:

6. A manufacturing method for zirconium system amorphous alloy, comprising the steps of:

melting metal by a high energy heat source;

pressing the molten metal in a press such that the molten metal does not form fitting cooling faces having a temperature under melting point of the molten metal;

Appeal No. 2002-1274
Application No. 09/153,309

transforming the molten metal at a temperature over the melting point into a predetermined configuration by applying at least one stress selected from compressive stress and shearing stress; and

cooling the molten metal at over a critical cooling rate simultaneously with or after the transformation to make the zirconium system amorphous alloy in the predetermined configuration which has a composition expressed by a general formula: $Zr_{100-x-y-a-b} Ti_x Al_y Cu_a Ni_b$ (marks a, b, x, and y in the formula represent atomic percentage, and they fulfill $X < 10$, $Y > 5$, $Y < -(1/2)X + 35/2$, $15 \leq a \leq 25$, and $5 \leq b \leq 15$), and which has an amorphous phase of more than 50 volume % of the alloy, a tensile strength higher than 1550 MPa, and a specific strength higher than $2.38 \times 10^6 \text{cm}$.

The examiner relies upon the following references as evidence of obviousness:

Scruggs et al. (Scruggs)	5,711,363	Jan. 27, 1998
Dandliker et al. (Dandliker)	6,010,580	Jan. 4, 2000

Appellants' claimed invention is directed to a method of making a zirconium system amorphous alloy of the recited formula. The process entails pressing the appropriate molten metal in a press such that form fitting cooling faces do not form. To our understanding cooling faces are surfaces within the molten metal that are below the melting point of the metal which result in defects in the cooled alloy. According to appellants, "the zirconium system amorphous alloys produced by the method of the present invention can be widely used as excellent structural materials with excellent strength characteristics such [as] a

Appeal No. 2002-1274
Application No. 09/153,309

specific strength, excellent workability and stable amorphous forming ability" (page 5 of Brief, second paragraph).

Appealed claims 6 and 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Scruggs in view of Dandliker.

Appellants submit at page 6 of the Brief that "[r]ejected claims 6 and 9 are to be considered separately." However, the ARGUMENT section of appellants' Brief fails to present an argument that is reasonably specific to either of the appealed claims. Accordingly, claim 9 stands or falls together with claim 6.

We have thoroughly reviewed each of appellants' arguments for patentability. However, we are in complete agreement with the examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103 in view of the applied prior art. Accordingly, we will sustain the examiner's rejection for essentially those reasons expressed in the Answer, and we add the following primarily for emphasis.

Appellants' do not dispute the examiner's factual determination that Scruggs, like appellants, discloses a method of making a zirconium system amorphous alloy by molding under pressure, and at a temperature well above the melting point of

the alloy, a zirconium alloy composition having a general formula that overlaps the claimed formula. Appellants also acknowledge that Dandliker exemplifies an amorphous zirconium alloy within the scope of the appealed claims (see page 10 of Brief, third paragraph), and appellants have not challenged the examiner's legal conclusion that "[i]t would have been obvious to one of ordinary skill in the art to perform the die casting process as taught by Scruggs et al., with the amorphous alloy taught by Dandliker, because Dandliker teaches that said alloy exhibits very high yield strength" (page 5 of Answer, first paragraph).

The sole argument advanced by appellants is that "cooling faces are inevitably formed inside the product according to the cited Scruggs et al patent" (page 7 of Brief, third paragraph). Appellants contend that in accordance with the claimed method "the molten metal is pressed in a press metal mold without forming fitting cooling faces" (page 8 of Brief, second paragraph).

It is well settled that when a claimed process reasonably appears to be substantially the same as a process disclosed by the prior art, the burden is on the applicant to prove that the prior art process does not necessarily or inherently possess characteristics attributed to the claimed process. In re Spada,

Appeal No. 2002-1274
Application No. 09/153,309

911 F.2d 705, 708, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990); In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In the present case, we concur with the examiner that the method steps of claim 6, "pressing the molten metal in a press" and "applying at least one stress selected from compressive stress and shearing stress" at a temperature above the melting point of the alloy, reasonably appear to be substantially the same as the die casting method of Scruggs performed under pressure at a temperature above the melting point of the zirconium alloy. Consequently, based on this likeness in method steps, we find it eminently fair to place upon appellants the burden of demonstrating that the methods fairly taught by Scruggs do not form fitting cooling faces having a temperature under the melting point of the molten metal. While appellants have provided sketches attached to the Brief which are asserted to depict differences between the cooling faces of alloys produced by the methods of Scruggs and the claimed invention, we agree with the examiner that:

Appellant has [sic, appellants have] not provided any probative [sic, probative] evidence that these drawings accurately depict what occurs in the Scruggs process nor has Appellant [sic, Appellants] shown any specific concrete evidence (such as inferior properties, which appellant states [sic, appellants state] are inevitable when cooling faces are layered, see specification page 2) that fitted cooling faces under the melting point are formed for the process taught by Scruggs [page 6 of Answer, last paragraph].

Appeal No. 2002-1274
Application No. 09/153,309

It is by now axiomatic that counsel's arguments in the Brief cannot take the place of objective evidence, and appellants have not proffered any such evidence which establishes that zirconium alloys produced by the methods of Scruggs and appellants are patentably distinct. In re Pearson, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974). We also note that the claimed method on appeal is not limited to the specific process disclosed in the specification with respect to upper and lower molds. Furthermore, while appellants maintain that "the zirconium system amorphous alloys produced by the methods of the present invention can be obtained in a larger mass" than that obtained by conventional methods (page 5 of Brief, second paragraph), Scruggs expressly discloses that the molten metal "can be processed in quantifies [sic, quantities] greater than the size of the die-casting charge or in the size of the die-casting charge" (column 10, lines 24-26).

In conclusion, based on the foregoing and the reasons well-stated by the examiner, the examiner's decision rejecting the appealed claims is affirmed.

Appeal No. 2002-1274
Application No. 09/153,309

No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a).

AFFIRMED

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
)	
)	
)	
)	
THOMAS A. WALTZ)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
)	
ROMULO H. DELMENDO)	
Administrative Patent Judge)	

ECK:clm

Appeal No. 2002-1274
Application No. 09/153,309

ARMSTRONG, WESTERMAN, HATTORI,
MCLELAND & NAUGHTON, LLP
1725 K St., N.W. Suite 1000
Washington, DC 20006